

Quarter 1 Test

Form B

Chapters 1–3

1. Use an equation to model the relationship in the table.

Month	Cost
1	\$6
2	\$12
3	\$18
4	\$24

Simplify each expression.

2. $-4\frac{1}{3} + (-2\frac{5}{6})$

3. $1.8 - (-2.6)$

4. $\frac{2^3 \times 6 - 4^2}{5 - 1}$

Evaluate each expression for $a = -2$, $b = 3.4$, and $c = 8$.

5. $4ac$

6. $c^2 + 3b$

Write an expression for each phrase.

7. sum of 15 and twice x
8. negative six times the quantity four less than x .
9. In which quadrant or on which axis would you find each point $(3, -7)$?

Solve each equation. Then check.

10. $7.2x + 3.1 = 29.1$

11. $4(x + 2) = 36$

12. $\frac{7}{8}y - 2 = 3$

Solve. If the equation is an identity, write *identity*. If it has no solution, write *no solution*.

13. $3y - 8 = 6y + 4y$

14. $3x - 5 + 4x = 12 + 7x - 17$

15. Write an equation to model this situation. Then use your equation to solve. Emily has \$6.00 to buy postcards for her friends. The postcards cost \$0.75 each. How many postcards is she able to buy?

16. A taxicab company charges each person a flat fee of \$2.50 plus an additional \$0.40 per quarter-mile.
- a. Write a formula to find the total cost for each fare.
- b. Use the formula to find the cost for 1 person to travel 12 mi.

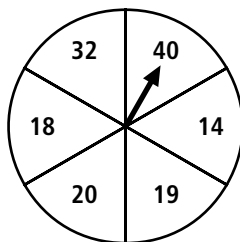
Quarter 1 Test (continued)

Form B

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17. Looking at the spinner, what is the probability of spinning a number divisible by 4?

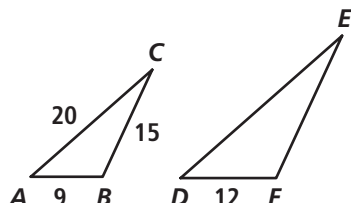
- A. $\frac{1}{4}$
B. $\frac{1}{3}$
C. $\frac{1}{2}$
D. $\frac{5}{6}$



18. Suppose you roll a number cube and then draw a marble from a bag containing a red, a white, and a blue marble. What is the probability of getting a 3 on the number cube and choosing a blue marble?

19. Solve: $\frac{x}{9} = \frac{8}{20}$

20. $\triangle CAB$ is similar to $\triangle EDF$. What is the length of \overline{EF} ?



21. Find the difference. $\begin{bmatrix} 3 & -9 \\ 6 & 4 \end{bmatrix} - \begin{bmatrix} 1 & 5 \\ -7 & 2 \end{bmatrix}$

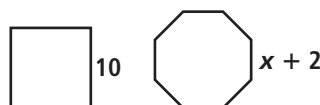
22. Using the greatest possible error find the difference between the maximum and minimum areas of a garden measuring 18 ft by 36 ft.

23. Which property is illustrated?

$$(4 \cdot -7) \cdot 5 = 4(-7 \cdot 5)$$

Solve each problem.

24. The perimeter of the square and regular octagon are the same. Find the value of x .



25. The mean of a set of data is 80. Five of the six data points are given as 91, 202, 56, 41, and 13. What is the value of the sixth point?
26. On four plays, a football team gained 12 yd, lost 7 yd, gained 20 yd, and lost 5 yd. What is the total number of yards gained or lost on the four plays?

Use the table below for Exercises 27–28.

School	Students	
	Buy Lunch	Pack Lunch
Elementary	132	90
Junior High	49	63
Senior High	86	63

27. Find the mean, median, and mode number of students who buy their lunch.
28. Find the mean, median, and mode number of students who pack their lunch.
29. One leg of a right triangle is 8. The hypotenuse equals 15. What is the length of the unknown leg?
30. Justify each step.

$$\begin{aligned} 2(5x + 3) + 4x &= 10x + 6 + 4x && \frac{?}{?} \\ &= 10x + 4x + 6 && \frac{?}{?} \\ &= (10 + 4)x + 6 && \frac{?}{?} \\ &= 14x + 6 && \text{Addition} \end{aligned}$$